

## Protecting and Improving Michigan's Resources Utilizing Nonpoint Source Program Grants

With over 11,000 lakes, 54,000 miles of streams and 4,000 miles of coastal beaches, Michigan is full of opportunities to find a beautiful scenic vista, a quiet stretch of river, a long, sandy beach, or a quaint public park. **Michigan's Nonpoint Source Program** has been providing funding to local units of government and non-profit groups for over 20 years to ensure Michigan's lakes and streams and wetlands are improved and protected. Using a combination of state and federal funds, matched with local dollars, the Nonpoint Source Program is protecting and improving rivers and lakes, creating and restoring wetlands, and greening our urban areas.

All of our work is done on a watershed management basis, a tool that pulls federal, state and local folks together to discuss water quality issues and how to solve them. Watershed management plans lay the ground work for implementing all sorts of tools, including education, land use planning and implementation practices. The Nonpoint Source Program provides grants and technical assistance to help:

- \* Develop ordinances that protect current land uses -- things like wetland preservation, storm water controls, soil erosion control, and setbacks from rivers and lakes.
  - \* Implement structural and vegetative practices to control erosion, and reduce pollutants like phosphorus and nitrogen.
  - \* Implement managerial practices, such as collecting and analyzing soil samples to determine just how much phosphorus a lawn, farm field or golf course needs.
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- \* Implement permanent conservation easements to permanently protect river corridors, floodplains, lake shoreline, and wetlands.
  - \* Implement information and educational strategies to make people aware of nonpoint source pollution and what they can do to protect and improve our water.

This is a summary of just a few of the things the Nonpoint Source Program has done to help ensure Michigan's rivers, lakes and wetlands remain a vital attraction for Michigan tourism.

Nonpoint source pollution is diffuse, intermittent pollution, which includes agricultural runoff, erosion from construction sites and stream banks, and runoff from parking lots.





## When You Go Fishing . . .

Sediment -- or, simply "dirt" -- eroding from construction sites, rural road-stream crossings, and recreational access sites throughout Michigan resulted in tons of sediment covering fish habitat. Enter the Nonpoint Source Program, whose grant dollars since 1990 have paid for the stabilization of 73,007 linear feet of stream banks, 273 road-

stream crossings, and 41 recreational access sites, and reduced sediment going into famous northern lower Michigan trout streams like the Au Sable River, Betsie River, Boardman River, Manistee River, and Pine River. The Nonpoint Source Program has implemented similar projects in Upper Peninsula Michigan rivers, including the Lower Dead, Fox, Yellow Dog, Fumme, Iron, Manistique, and Chocolay. Southern Michigan streams like the Nottawa Creek, Rouge River, Paint Creek, and others have also benefited from our funding. We are currently working on a project in the Hemingway-famed Two Hearted River.

The result? Better habitat for better fishing in Michigan.



This is an example of a road crossing on the Au Sable River before and after Nonpoint Source Program Grant Funding.



## When You Go Hunting or Bird Watching . . .



The Nonpoint Source Program has contributed over \$20M to support the Conservation Reserve Enhancement Program (CREP). This program offers enhanced soil rental payments and cost-share rates to farmers to implement agricultural conservation practices. Nonpoint Source Program funds paid for practices such as: riparian buffer strips, filter strips, wetland restorations, and wind breaks. These practices protect water quality and provide habitat for song birds and game birds, which results in better hunting and bird watching.



Through September 2007, Nonpoint Source funding has resulted in the implementation of over 2,287 acres of riparian buffer strips, 32,660 acres of filter strips, 17,882 acres of wetland restorations and 2,056 acres of windbreaks on CREP land. When the numerous Nonpoint Source CREP easement projects are fully implemented, over 4,000 acres of CREP practices will be permanently protected.





## When You Paddle A Michigan River . . .



The Nonpoint Source Program has proven that it is possible to recreate in Michigan's lakes and streams and still protect our natural resources. The two things we've done -- provide access sites so people can access the rivers with their boats and gear but without causing erosion, and provide permanent protection of river corridors and critical wetlands to ensure these places remain beautiful destinations in perpetuity. Above, a canoe launch and stairs allows paddlers to launch their canoes without dragging them down the bank. Below, a river corridor protected permanently so that future paddlers can enjoy the same view.





## When You Visit Our Gardens . . .

The Nonpoint Source Program has supported the greening of our urban and residential areas by providing grant funds for green roofs and rain gardens. These practices provide infiltration of storm water, rather than directing the storm water directly to our lakes, streams, and wetlands. These also provide beautiful attractions. At right, a green roof on the Metropolitan Health Hospital in Grand Rapids, covered with a plant called sedum. In addition to the Grand Rapids area, the Nonpoint Source Program has supported green roofs in Battle Creek and Ann Arbor.



close-up of sedum



To green a parking lot, we encourage rain gardens and other bioretention areas, which are designed to collect, treat and hold storm water. The picture to the left shows some beautiful native plants at the East Hills Center in Grand Rapids, and below that, a parking lot in Ann Arbor.



The Nonpoint Source Program has funded urban and residential rain gardens in dozens of places around the state. On a partially implemented project in Grayling, to date over 80 residential rain gardens have been installed thus far.



## When You Play in a Park . . .

To make people more aware of the need to infiltrate and treat storm water, the Nonpoint Source Program partnered with Washtenaw County Drain Commissioner, Janis Bobrin, to implement numerous practices in Olsen Park in Washtenaw County. While traditional pavement runs to the left, the porous pavement on the right is used for parking and provides infiltration of storm water. Plants to the right also take up and treat storm water.



Olsen Park also includes a demonstration rain garden and, shown here, a flow control structure that will help prevent erosion. In the background, a pond and trails provide hiking, mountain biking, and viewing of native flowers and birds.





## When You Take in the Arts . . .



Incorporating storm water practices into the arts was first done by the City of Saugatuck. With a Nonpoint Source grant and lots of local support, the City implemented a rain garden at the Saugatuck Center For The Arts (shown here) along with underground storage to hold excess storm water. The adjacent parking lot received modular pavement, which also helps collect and hold storm water.

Across the street from the Center in the sculpture park, the City installed a series of rain gardens.



## Think: What Else Can I Do?



Many Michigan lakes and stream are still threatened or impaired by nonpoint sources of pollution. Additional nonpoint source and other grant funds will help the DEQ assist Michigan communities and non-profit entities implement additional nonpoint source controls.

If you are interested in learning more about Nonpoint Source Program grant accomplishments, see our web page at [www.michigan.gov/deqnps](http://www.michigan.gov/deqnps). Under Information and Education, see Nonpoint Source Successes.

